A. Permit Certificate

MUNICIPAL WASTEWATER-LAND APPLICATION PERMIT

LA-000199-01

Rivervine Subdivision, LOCATED AT Lot 1, Block 1, Vintage St., Eagle, ID 83616 AND IN **Township 4N, Range 1W, Section 15** IS HEREBY AUTHORIZED TO CONSTRUCT, INSTALL, AND OPERATE A WASTEWATER-LAND APPLICATION TREATMENT SYSTEM IN ACCORDANCE WITH THE WASTEWATER-LAND APPLICATION RULES (IDAPA 58.01.17), THE WATER QUALITY STANDARDS AND WASTEWATER TREATMENT REQUIREMENTS (IDAPA 58.01.02), THE GROUND WATER QUALITY RULE (IDAPA 58.01.11), AND ACCOMPANYING PERMIT APPENDICES AND REFERENCE DOCUMENTS. THIS PERMIT IS EFFECTIVE FROM THE DATE OF SIGNATURE AND EXPIRES ON **FIVE YEARS AFTER ISSUANCE**.

Michael R. McGown
Boise Regional Administrator
Idaho Department of Environmental Quality

Date:

DEPARTMENT OF ENVIRONMENTAL QUALITY
1445 North Orchard
Boise, Idaho 83706-2239
(208) 373-0550
(208) 373-0287 fax

POSTING ON SITE RECOMMENDED

B. Permit Contents, Appendices, and Reference Documents

References

1. Plan of Operation (Operation and Maintenance Manual)
   - Nuisance Odor Management Plan
   - Waste Solids Management Plan
2. Agreement Regarding Approval of Plans and Specifications dated March 17, 2004.

The Sections, Appendices, and Reference Documents listed on this page are all elements of Wastewater-Land Application Permit LA-000199-01 and are enforceable as such. This permit does not relieve Castle Rock Development, hereafter referred to as the permittee, from responsibility for compliance with other applicable federal, state or local laws, rules, standards or ordinances.

C. Abbreviations, Definitions

Ac-in	Acre-inch. The volume of water or wastewater to cover 1 acre of land to a depth of 1 inch. Equal to 27,154 gallons.
bgs	Below Ground Surface
BMP or BMPs	Best Management Practices
BOD_5	5-day Biochemical Oxygen Demand
COD	Chemical Oxygen Demand
DEQ or the Department	Idaho Department of Environmental Quality
Director	Director of the Idaho Department of Environmental Quality, or the Directors Designee, i.e. Regional Administrator
ET	Evapotranspiration – Loss of water from the soil and vegetation by evaporation and by plant uptake (transpiration)
GS	Growing Season – Typically April 01 through October 31 (214 days)
GW	Ground Water
GWQR	IDAPA 58.01.11 "Ground Water Quality Rule"
Handbook or Guidelines	Handbook for Land Application of Municipal and Industrial Wastewater, DEQ, April 1996.
HLRgs	Growing Season Hydraulic Loading Rate. Includes any combination of wastewater and supplemental irrigation water applied to land application hydraulic management units during the growing season. The HLRgs limit is specified in Section F. Permit Limits and Conditions.
HLRngs	Non-Growing Season Hydraulic Loading Rate. Includes any combination of wastewater and supplemental irrigation water applied to each hydraulic management unit during the non-growing season. The HLRngs limit is specified in Section F. Permit Limits and Conditions.
HMU	Hydraulic Management Unit (Serial Number designation is MU)
IWR	Irrigation Water Requirement – Any combination of wastewater and supplemental irrigation water applied at rates commensurate to the moisture requirements of the crop, and calculated monthly during the growing season (GS). Calculation methodology for the IWR can be found at the following website: http://www.kimberly.uidaho.edu/water/appndxet/index.shtml. The equation used to calculate the IWR at this website is: $IWR = (CU - P_e) / E_i$ CU is the monthly consumptive use for a given crop in a given climatic area. CU is synonymous with crop evapotranspiration P_e is the effective precipitation. CU minus Pe is synonymous with the net irrigation requirement (IR) E_i is the irrigation system efficiency. To obtain the gross irrigation water requirement (IWR), divide the IR by the irrigation system efficiency.
IDAPA	Idaho Administrative Procedures Act.
LG	Lagoon
lb/ac-day	Pounds (of constituent) per acre per day
lb/ac-yr	Pounds (of constituent) per acre per year
MG	Million Gallons (1 MG = 36.827 acre-inches)
MGA	Million Gallons Annually (per WLAP Reporting Year)
NGS	Non-Growing Season – Permit Specific Range from November 01 through February 28/29 (120/121 days)
NTU	Nephelometric Turbidity Unit
NVDS	Non-Volatile Dissolved Solids (= Total Dissolved Solids less Volatile Dissolved Solids)
O&M manual	Operation and Maintenance Manual, also referred to as the Plan of Operation
SAR	Sodium Absorption Ratio

C. Abbreviations, Definitions

SBR	Sequencing Batch Reactor
SHGW	Seasonally High Ground Water
SI	Supplemental Irrigation water applied to the land application treatment site.
Soil AWC	Soil Available Water Holding Capacity - the water storage capability of a soil to a depth at which plant roots will utilize (typically 60 inches or root limiting layer)
SMU	Soil Monitoring Unit (Serial Number designation is SU)
SW	Surface Water
TDS	Total Dissolved Solids or Total Filterable Residue
TDIS	Total Dissolved Inorganic Solids – The summation of chemical concentration results in mg/L for the following common ions: calcium, magnesium, potassium, sodium, chloride, sulfate, and 0.6 times alkalinity (alkalinity expressed as calcium carbonate). Nitrate, Silica and fluoride shall be included if present in significant quantities (i.e. > 5 mg/L each).
TMDL	Total Maximum Daily Load – The sum of the individual waste-load allocations (WLA's) for point sources, Load Allocations (LA's) for non-point sources, and natural background. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. IDAPA 58.01.02 *Water Quality Standards and Wastewater Treatment Requirements*
TSS	Total Suspended Solids
Typical Crop Uptake	Typical Crop Uptake is defined as the median constituent crop uptake from the three (3) most recent years the crop has been grown. Typical Crop Uptake is determined for each hydraulic management unit. For new crops having less than three years of on-site crop uptake data, regional crop yield data and typical nutrient content values, or other values approved by DEQ may be used.
USGS	United States Geological Survey
WLAP	Wastewater Land Application Permit (or Program)
WLAP Reporting Year	The reporting year begins with the non-growing season and extends through the growing season of the following year, typically November 01 – October 31. For example, the 2000 Reporting Year was November 01, 1999 through October 31, 2000.
WW	Wastewater applied to the land application treatment site

D. Facility Information

Legal Name of Permittee	Castle Rock Development; Reed DeMordaunt, President
Type of Wastewater	Municipal
Method of Treatment	Sequencing Batch Reactor (SBR), a biological wastewater treatment technology; Aerobic & Anaerobic biological treatment, coagulation, sand filtration, and chlorine disinfection. Growing season, and approved non-growing season land application will consist of non-diluted effluent sprinkled on the site. During periods when land application is not permitted, effluent is discharged into on-site ponds, mixed with irrigation and groundwater, and used to irrigate approved common areas.
Type of Facility	Private domestic wastewater treatment
Approved Application Areas	Direct wastewater application shall be restricted to the Hydraulic Management Unit (HMU) located in the Northwest quadrant of the subdivision, on the west side of pond #1. Stored/Diluted wastewater is authorized to be applied to all common grounds.
Facility Location	Approximately 3 ½ miles west of Eagle, ID, ¼ mile south of Highway 44, bounded on the north by Moon Valley Rd, and the Pioneer Canal on the south.
Legal Location	Southeast corner of Palmer Lane and Moon Valley Road: Portions of the SW¼ of NE¼, NW¼ of NE¼, and NW¼ of SE¼ of Section 15, T4N, R1W
County	Ada
USGS Quad	Star
Soils on Site	Moulton Fine Sandy Loam, and Baldock loam (SCS Ada Soil Survey).
Depth to Ground Water	Seasonally High Ground Water (SHGW) attains 4 feet below ground surface (bgs).
Beneficial Uses of Ground Water	Domestic, agriculture.
Nearest Surface Water	Year-round: Irrigation ponds #1 & #2, located on the west and southwest sides of the development. The Boise River forms the southern boundary of the development. Seasonal: Pioneer irrigation canal transects the development immediately south of the land application site.
Beneficial Uses of Surface Water	Recreation, aquatic life, agriculture.
Responsible Official **Mailing Address** **Phone / Fax**	Reed DeMordaunt, President Castle Rock Development, Inc. 1639 Lakemoor Way Eagle, ID 83616 (208) 938-4847 / (208) 938-4156
Facility Consultants **Mailing Address** **Phone / Fax**	CSHQA; Roger Wright, PE 250 S. 5th St. Boise, ID 83702 (208) 3434-4635 Cromaglass Corporation; Denny Dyroff P.O. Box 3215 Williamsport, PA 17701 (570) 326-3396 / (570) 326-6426

E. Compliance Schedule for Required Activities

The Activities in the following table shall be completed on or before the Completion Date unless modified by the Department in writing.

Compliance Activity Number Completion Date	Compliance Activity Description
CA-199-01 30 days prior to applying wastewater at site	Submit plans to the Department for review and approval for a minimum of three (3) shallow ground water monitoring wells. The monitoring wells shall be located in the following locations: 1. Northeastern quadrant of the subdivision, up-gradient from the WLAP site. 2. Northwestern quadrant, between the wastewater land application site and the subdivision's western boundary. 3. Southwestern quadrant, south of the wastewater land application site and adjacent to the subdivision's western boundary, no closer than 100 feet south of the Pioneer Canal. Upon approval, the wells shall be installed prior to startup of the pressurized irrigation system.
CA-199-02 30 days prior to applying wastewater at site	A Plan of Operation (Operations and Maintenance Manual or O&M Manual) for the Wastewater Land Application Facilities, incorporating the requirements of this permit, shall be submitted to DEQ for review and comment. The O&M Manual shall be designed for use as an operator guide for actual day-to-day operations to meet permit requirements and shall include daily sampling and monitoring requirements to insure proper operation of the wastewater land application site and equipment. The Plan of Operations shall contain at a minimum all of the information required by the latest revision of the Plan of Operation Checklist in the WLAP Program Guidance. The Plan shall also include irrigation schedules, grass cutting schedules, grass cutting disposal plan, and a detailed map delineating the Wastewater Land Application Site. Upon approval, the manual shall be incorporated by reference into this permit and shall be enforceable as a part of this permit.
CA-199-03 30 days prior to applying wastewater at site	Submit a Nuisance Odor Management Plan to DEQ for review and approval. The Odor Management Plan shall include wastewater treatment systems, land application facilities, and other operations associated with the facility. The plan shall include specific design considerations, operation and maintenance procedures, and management practices to be employed to minimize the potential for or limit odors. The plan shall also include procedures to respond to an odor incident if one occurs, including notification procedures.
CA-199-04 6 month following significant TDS increase ID'd in annual	A Total Dissolved Solids (TDS) Management Plan may be required if ground water TDS significantly increases across the site. The plan shall identify sources of TDS, evaluate the feasibility of isolation or removal of TDS, and propose strategies to minimize TDS in the wastewater.
CA-199-05 30 days prior to applying wastewater at site	Identify WLAP system operator and provide Class III or higher operator certification material to DEQ.
CA-199-06 30 days prior to applying wastewater at site	Submit a Waste Solids Management Plan to DEQ for review and approval. The Plan shall describe how waste solids generated at the facility will be handled and disposed of to meet the requirements of Section L, Item 5, of this permit, and 40 CFR 503.

E. Compliance Schedule for Required Activities

Compliance Activity Number Completion Date	Compliance Activity Description
CA-199-07 **30 days prior to application of waste solids**	Submit a scaled site map delineating buffer zones, homes, public access areas, private wells, canals, etc. and the actual area in acres of each HMU. Site Maps shall be supplied by the permittee and shall include at a minimum all requirements of IDAPA 58.01.17.300.05.e through f.
CA-199-08 **Within one year of permit renewal**	Update O&M Manual, Site Maps etc.
CA-199-09 **Prior to April 15, 2006**	WLAP system operator must receive State of Idaho certification for wastewater land application prior to this compliance date. The examination for the WLAP certification should be available by April 2005.

F. Permit Limits and Conditions

1) The Permittee is allowed to apply wastewater and treat it on a land application site as prescribed in the tables below and in accordance with all other applicable permit conditions and schedules.

Category	Permitted Limits and Conditions
Type of Wastewater	Municipal Wastewater.
Application Site Area	5.0 acres
Application Season	Year around
Growing Season (GS)	March 1 through October 31
Non-Growing Season (NGS)	November 1 through February 28/29
Supervision	Certified Wastewater Operator, Class III minimum (IDAPA 58.01.02.406).
Reporting Year for Annual Loading Rates	November 1 through October 31. The first reporting period shall begin on the date that the WW Treatment Facility is certified operational and end on the following October 31.
Maximum Hydraulic Loading Rate, Growing Season (includes wastewater and supplemental irrigation water)	The GS Hydraulic Loading Rate shall be no greater than the IWR as defined on page 3 of this permit (i.e. 52.4 inches or 7.11 MGA). The following table specifies the monthly maximum IWR for the GS:

Volume\Month	March	April	May	June	July	Aug.	Sept.	Oct.
IWR (inches)	3.97	4.46	6.95	8.63	10.5	8.46	6.03	3.38
IWR (MG)	0.54	0.61	0.94	1.17	1.42	1.15	0.82	0.46
IWR (gpd)	17960	20170	30430	39050	45970	37060	27300	14820

Wastewater application activities shall be spaced uniformly throughout the month to avoid any problems with ponding or runoff due to hydraulic overloading. Application rates shall generally follow consumptive use rates for the specified crop throughout the growing season. Upon DEQ approval, current climatic and evaporation data, or 30-year average data may be used to calculate the IWR, as defined in the 1994 Technical Interpretive Supplement, pages IV-6 and IV-7. Assume no carryover soil moisture and a leaching rate of zero in calculating the IWR.

Maximum Hydraulic Loading Rate, Non-Growing Season (wastewater only)

The Non-Growing Season Hydraulic Loading Rate (HLR_{NGS}) shall utilize only 50% of the Available Water Column (AWC) for the site's Moulton soil.

$$HLR_{NGS} = (0.5*\text{Soil AWC}) - \text{Precipitation}_{NGS} + \text{Evapotranspiration}_{NGS}$$

Wastewater application activities shall be spaced as uniformly as practical throughout the month to avoid ponding or runoff due to hydraulic overloading. Application to frozen or snow covered soils shall also be prohibited to prevent an artificial "rain on snow" event. Resulting application volumes shall not exceed the value provided in the table below.

Volume \ Month	Nov.	Dec.	Jan.	Feb.
HLR_{NGS} (inches)	3.38	3.32	2.60	3.59
HLR_{NGS} (MG)	0.46	0.45	0.35	0.49
HLR_{NGS} (gpd)	15300	14540	11390	16250

F. Permit Limits and Conditions

Category	Permitted Limits and Conditions
No Runoff	No runoff is allowed from any site or fields used for wastewater land application except after a 25-year, 24-hour storm event or greater using Western Regional Climate Center (WRCC) Precipitation Frequency Map, Figure 28 "Isopluvials of 25-YR, 24-HR Precipitation". For this site, the 25-year, 24-hour event is 2.4 inches.
Ground Water Quality	Ground Water Quality shall be in compliance with *Idaho Ground Water Quality Rule* IDAPA 58.01.11
Maximum COD Loading, seasonal average in Pounds / acre-day, each HMU	COD_{GS} = 50 pounds/acre-day seasonal average. COD_{NGS} = 25 pounds/acre-day seasonal average.
Maximum Nitrogen Loading Rate, pounds / acre-year, each HMU (from all sources including waste solids and supplemental fertilizers).	85 pounds per acre per year (85 lb/acre-yr)
Maximum Phosphorus Loading Rate, pounds / acre-year, each HMU (from all sources including waste solids and supplemental fertilizers).	10.0 pounds per acre per year (10.0 lb/acre-yr)
Maximum Domestic Wastewater flow rate to SBR treatment facility	5,400 gallons per day (5,400 gpd)
BOD_5, SBR treatment system effluent concentration	Monthly average shall not exceed 5 mg/L Weekly average shall not exceed 7.5 mg/L Monthly average removal efficiency shall be 90% or greater
TSS, SBR treatment system effluent concentration	Monthly average shall not exceed 5 mg/L Weekly average shall not exceed 7.5 mg/L Monthly average removal efficiency shall be 90% or greater
Total Nitrogen, SBR treatment system effluent concentration	Monthly average shall not exceed 5 mg/L Weekly average shall not exceed 7.5 mg/L Monthly average removal efficiency shall be 90% or greater
Turbidity downstream of sand filter and prior to Chlorination	24-hr average shall not exceed 2 NTU Maximum turbidity shall not exceed 5 NTU – Instantaneous maximum into the chlorine disinfection tank.
Total Coliform, disinfected effluent from wastewater treatment system	The median number of total coliform organisms shall not exceed 2.2 per 100 millimeters, as determined from the results of the last three (3) days for which analyses have been completed.
Chlorine Residual	Prior to land application, the effluent shall be treated with chlorine to maintain a minimum free chlorine residual of 0.50 mg/l after treatment and prior to site application or discharge to the pond.
Construction Plans	Prior to construction or modification of all wastewater facilities associated with the land application system or expansion, detailed plans and specifications shall be reviewed and approved by DEQ. Within 30 days after completion of construction, the permittee shall submit record drawings, based on contractor and designated observer documentation, for review and approval.
Grazing	No grazing is proposed in the permit application area.
Allowable crops	Pasture/Silage grasses only. Crops grown for direct human consumption are not allowed.
Fencing and Posting	Signs shall be posted every 500 feet around the entire perimeter of the wastewater

F. Permit Limits and Conditions

Category	Permitted Limits and Conditions
	application site. The signs shall be oriented in order to notify people that the site is irrigated with reclaimed water, prior to their entrance onto the land application site. The signs shall read "Irrigated with Reclaimed Water – Do Not Drink" or equivalent. Signs shall also be placed around the pond at these same intervals. Signs around the pond shall read "Danger Reclaimed Wastewater – Keep Out" or equivalent.
Supplemental Irrigation Water Protection	For systems with wastewater and fresh irrigation water interconnections, DEQ approved backflow prevention devices, or an air gap are required.
Odor Management	The wastewater treatment plant, land application facilities, and other operations associated with the facility shall not create a public health hazard or nuisance conditions, including odors. These facilities shall be managed in accordance with a DEQ approved Odor Management Plan.

Buffer Zone Distances (based on sprinkler irrigation)	**Disinfection Level* (total coliform)**	**Distance to Public Access** (feet)	**Distances to Inhabited Dwellings** (feet)	**Distance to streams** (feet)	**Distance to private water sources** (feet)	**Distance to public water sources** (feet)	**Single sample maximum total coliform level**
	2.2 /100 ml	0	100	100	500	1000	23/100 ml

*Compliance determination method for disinfection requirements is as follows:

- For determining compliance with the 2.2 / 100 ml disinfection level, the median value of the last five (3) results must not exceed 2.2 / 100 ml. In addition, no single sample value shall exceed 23 / 100 ml.

G. Monitoring Requirements

1) Appropriate analytical methods, as given in the *Handbook for Land Application of Municipal and Industrial Wastewater, April 1996*, or as approved by the Idaho Department of Environmental Quality (hereinafter referred to as DEQ), shall be employed. A description of approved sample collection methods, appropriate analytical methods and companion QA/QC protocol shall be included in the Operation and Maintenance Manual.
2) The permittee shall monitor and measure parameters and submit information as stated in the Facility Monitoring Table in this section.
3) Samples shall be collected at times and locations that represent typical environmental and process parameters being monitored.
4) Monitoring locations are described in Appendix 1. Environmental Monitoring Serial Numbers.
5) Monitoring is required at the frequency shown in the table below if wastewater is applied anytime during the time period shown. Unless otherwise agreed in writing by the DEQ, data collected and submitted shall include, but not be limited to, the parameters and frequencies in the Facility Monitoring Table as follows.
6) If the soil management unit is less than 15 acres, use 5 sub-samples. If the soil management unit is greater than 15 acres, use 10 sub-samples.
7) Three (3) soil samples shall be collected at each sample location, one at 0-12 inches, one at 12-24 inches, and one at 24-36 inches. The soil samples collected at 0-12 inches from each sample location shall be composited. Similarly, all soil samples collected at 12-24 inches shall be composited and all soil samples collected at 24-36 inches shall be composited. This method will yield three samples for analysis, one for 0-12 inches, one for 12-24 inches and one for 24-36 inches for each soil management unit.
8) Ground Water Monitoring Procedure: Ground Water Monitoring Wells shall be purged a minimum of three casing volumes and/or until field measurements for pH, specific conductance and temperature meet the following conditions: two successive temperature values measured at least five minutes apart are within one degree Celsius of each other, pH values for two successive measurements measured at least five minutes apart are within 0.2 units of each other, and two successive specific conductance values measured at least five minutes apart are within 10% of each other. This procedure will determine when the wells are suitable for sampling for constituents required by the permit. Other procedures, such as low flow sampling, may be considered by DEQ for approval. The static water level shall be measured prior to pumping or sampling for ground water.
9) Annual reporting of monitoring requirements is described in Section H, Standard Reporting Requirements.

Facility Monitoring Table

Frequency	Monitoring Point	Description and Type of Monitoring	Parameters
Continuous	After dose tank, prior to pond discharge or land application.	Residual chlorine monitor	Chlorine residual (mg/L)
Continuous	Turbidity	Turbidity monitor (Nephelometer)	Turbidity (NTU)
Daily	Discharge Point of Wastewater to Land Application (Flow Meter)	Volume of Wastewater land applied	Gallons/Month and acre-inches/month applied to each Hydraulic Management Unit
Daily	Flow Meter or Calibrated Pump Rate	Supplemental Irrigation Water	Gallons/Month and acre-inches/month applied to each Hydraulic Management Unit
Daily	Dosing Tank	pH	pH (SU)
Daily (during NGS)	Meteorological data and field conditions, each HMU	Temperature, Precipitation, and field conditions	High & low air temps & precip. for each 24-hr period. Field condition observations for ponding areas, etc.

G. Monitoring Requirements

Frequency	Monitoring Point	Description and Type of Monitoring	Parameters
During Application Season For total coliform, 2.2 / 100 ml. - Twice Weekly	Discharge Point of Wastewater to Land Application	Grab Sample	Total Coliform
Weekly	Influent @ Equalization tank Effluent @ Dose tank	Grab Sample	BOD_5 and TSS[3]
Monthly	Discharge Point of Wastewater to Land Application	Grab Sample	Total Kjeldahl nitrogen, nitrate+nitrite-nitrogen[2], TDS, pH, COD[4], total P
Annually	Supplemental Irrigation Water at diversions	Grab Sample	Total Kjeldahl nitrogen, nitrate+nitrite-nitrogen, TDS, pH, COD, total P
Annually	Hydraulic management unit	Acres used for land application	Acres
Annually	Hydraulic management unit	COD loading calculation (GS and NGS)	COD[4] applied in lbs/acre-day
Annually	Hydraulic management unit	Report total nitrogen and phosphorus load from fertilizer or all other non-wastewater sources.	Nitrogen[2] and phosphorus applied in lbs/acre-year
Annually	Hydraulic management unit	Calculate and Report total nitrogen and phosphorus loading from wastewater application.	Nitrogen[2] and phosphorus applied in lbs/acre-year
Annually	Hydraulic management unit	Crop Yield Calculation and Crop Type	tons/acre, lbs/acre, or bushels/acre
Annually	Hydraulic management unit	Crop Nutrient Uptake from standard tables for Crop Type and yield.	Nitrogen and phosphorus uptake in lbs/acre-year
Annually	Hydraulic management unit	Calculate Irrigation Water Requirement for Crop Grown	Volume (inches / acre and total gallons) for each month for GS.
Annually	Each HMU	Calculate NGS & GS wastewater loading rate	Million Gallons (MG) & Inches/Month
Annually	All flow measurement locations.	Flow measurement calibration of all flows to land application.	Document the flow measurement calibration of all flow meters and pumps used directly or indirectly measure all wastewater, tail water, flushing water, and supplemental irrigation water flows applied to each HMU.

G. Monitoring Requirements

Frequency	Monitoring Point	Description and Type of Monitoring	Parameters
Quarterly (If groundwater data compiled during the first 5 years of monitoring justify reduced monitoring frequency, monitoring may be reduced to biannual, April & October, grab samples. The listing of monitored constituents may also be reduced with sufficient supporting data).	Groundwater Monitoring Wells listed in Appendix 1.	Grab sample of groundwater.	Total Coliform, Chloride, Nitrate-N, Nitrite-N, TDS, Sodium, Potassium, Calcium, Magnesium, carbonate, bicarbonate, static water level, total iron, total manganese, & pH. If Total Iron & Manganese exceed MCL, analyze sample for Dissolved Iron & Manganese.
April of first and last permit years only. (If domestic well samples from first and last permit year show no degradation to the source aquifer, domestic well monitoring may be eliminated).	Domestic and municipal wells within ¼ mile of all land application acreage.	Grab sample from domestic and municipal wells (with well owner's permission).	Specific Conductivity, Total Dissolved Solids (TDS), Nitrite + Nitrate Nitrogen, Total Phosphorus, Chloride, Sulfate, Total Iron, Total Manganese, Sodium, Potassium, Calcium, Magnesium, carbonate, bicarbonate, Dissolved Iron[1], Dissolved Manganese[1]

1. Analytical results are required for dissolved iron and / or manganese only if the results for total iron and / or manganese exceed the standards in IDAPA 58.01.11.200.01.b.
2. If the nitrogen loading for the reporting year is 75% or less than the nitrogen permit limit, the permittee may reduce wastewater monitoring to twice per year in July and September for the following reporting year and beyond if the loading rates continues below 75%.
3. Require that operators monitor TSS and BOD of both influent and effluent. However, operators can put this additional monitoring into their O&M Manual and use the data as an indicator of treatment performance.
4. Eliminate COD wastewater monitoring requirements if historical loading rates are 5 pounds/acre-day or less.

H. Standard Reporting Requirements

1. The permittee shall submit an Annual Wastewater-Land Application Site Performance Report ("Annual Report") prepared by a competent environmental professional no later than January 31 of each year which shall cover the previous year (see section F for WLAP reporting period). The Annual Report shall include results for monitoring required in Section G, status of compliance activities, and an interpretive discussion of monitoring data (ground water, vadose zone, hydraulic loading, wastewater etc.) with particular respect to environmental impacts by the facility.

2. The annual report shall contain the results of the required monitoring as described in Section G. Monitoring Requirements. If the permittee monitors any parameter more frequently than required by this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the annual report.

3. The annual report shall be submitted to the Engineering Manager in the applicable Regional DEQ Office.

Boise Regional Office
1445 N. Orchard
Boise, ID 83706-2239
208-373-550

Coeur d'Alene Regional Office
2110 Ironwood Parkway
Coeur d'Alene, ID 83814
208-769-1422

Idaho Falls Regional Office
900 N. Skyline, Suite B
Idaho Falls, ID 83402
208-528-2650

Lewiston Regional Office
1118 "F" Street
Lewiston, ID 83501
208-799-4370

Pocatello Regional Office
444 Hospital Way, #300
Pocatello, ID 83201
208-236-6160

Twin Falls Regional Office
601 Pole Line Road, Suite 2
Twin Falls, ID 83301
208-736-2190

A copy of the annual report shall also be mailed to:

Richard Huddleston, P.E.
Wastewater Program Manager
1410 N. Hilton
Boise, ID 83706
208-373-0561

4. Notice of completion of any work described in Section E. Compliance Schedule for Required Activities shall be submitted to the Department within 30 days of activity completion. The status of all other work described in Section E shall be submitted with the Annual Report.

5. All laboratory reports containing the sample results for monitoring required by Section G. Monitoring Requirements of this permit shall be submitted with the Annual Report.

I. Standard Permit Conditions: Procedures and Reporting

1. The permittee shall at all times properly maintain and operate all structures, systems, and equipment for treatment, operational controls and monitoring, which are installed or used by the permittee to comply with all conditions of the permit or the Wastewater-Land Application Permit Regulations, in conformance with a DEQ approved, current Plan of Operations (Operations and Maintenance Manual) which describes in detail the operation, maintenance, and management of the wastewater treatment system. This Plan of Operations shall be updated as necessary to reflect current operations.

2. Wastewater(s) or recharge waters applied to the land surface must be restricted to the premises of the application site unless permission has been obtained from the DEQ authorizing a discharge into the waters of the State as stated in IDAPA 58.01.02.600.02.

3. Wastewater must not create a public health hazard or nuisance condition as stated in IDAPA 58.01.02.600.03. In order to prevent public health hazards and nuisance conditions the permittee shall:

a. Apply wastewater as evenly as practicable to the treatment area;
b. Prevent organic solids (contained in the wastewater) from accumulating on the ground surface to the point where the solids putrefy or support vectors or insects; and
c. Prevent wastewater from ponding in the fields to the point where the ponded wastewater putrefies or supports vectors or insects.

4. The permittee shall:

a. Manage the wastewater land application treatment site as an agronomic operation where vegetative cover is grown and harvested or grazed to utilize the nutrients and minerals in the wastewater, and,
b. Not hydraulically overload any particular areas of the wastewater land application treatment site.

5. All waste solids, including dredgings and sludges, shall be utilized or disposed in a manner which will prevent their entry, or the entry of contaminated drainage or leachate therefrom, into the waters of the state such that health hazards and nuisance conditions are not created; and to prevent impacts on designated beneficial uses of the ground water and surface water. The permittee's management of waste solids shall be governed by the terms of the DEQ approved Waste Solids Management Plan, which upon approval shall be an enforceable portion of this permit.

6. If the permittee intends to continue operation of the permitted facility after the expiration of an existing permit, the permittee shall apply for a new permit at least six months prior to the expiration date of the existing permit in accordance with the Waste Water Land Application Permit Regulations and include seepage tests on all lagoons per latest DEQ procedures.

7. The permittee shall allow the Director of the Idaho Department of Environmental Quality or the Director's designee (hereinafter referred to as Director), consistent with Title 39, Chapter 1, Idaho Code, to:

a. Enter the permitted facility,
b. Inspect any records that must be kept under the conditions of the permit.
c. Inspect any facility, equipment, practice, or operation permitted or required by the permit.
d. Sample or monitor for the purpose of assuring permit compliance, any substance or any parameter at the facility.

8. The permittee shall report to the Director under the circumstances and in the manner specified in this section:

a. In writing thirty (30) days before any planned physical alteration or addition to the permitted facility or activity if that alteration or addition would result in any significant change in information that was submitted during the permit application process.
b. In writing thirty (30) days before any anticipated change which would result in non-compliance with any permit condition or these regulations.
c. Orally within twenty-four (24) hours from the time the permittee became aware of any non-compliance which may endanger the public health or the environment at telephone numbers provided in the permit by the Director (see below)

DEQ Regional Office: see Permit Certification Page
Emergency 24 Hour Number 1-800-632-8000

d. In writing as soon as possible but within five (5) days of the date the permittee knows or should know of any non-compliance unless extended by the DEQ. This report shall contain:

i. A description of the non-compliance and its cause;
ii. The period of non-compliance including to the extent possible, times and dates and, if the non-compliance has not been corrected, the anticipated time it is expected to continue; and
iii. Steps taken or planned to reduce or eliminate reoccurrence of the non-compliance.

e. In writing as soon as possible after the permittee becomes aware of relevant facts not submitted or incorrect information submitted, in a permit application or any report to the Director. Those facts or the correct information shall be included as a part of this report.

9. The permittee shall take all necessary actions to prevent or eliminate any adverse impact on the public health or the environment resulting from permit noncompliance.

10. The permittee shall determine (on an on-going basis) if any noxious weed problems relate to the permitted sites. If problems are present, coordinate with the Idaho Department of Agriculture or the local County authority regarding their requirements for noxious weed control. Also address these control operations in an update to the Operations and Maintenance Manual.

J. Standard Permit Conditions: Modifications, Violations, and Revocations

1. The permittee shall furnish to the Director within reasonable time, any information including copies of records, which may be requested by the Director to determine whether cause exists for modifying, revoking, re-issuing, or terminating the permit, or to determine compliance with the permit or these regulations.

2. Both minor and major modifications may be made to this permit as stated in IDAPA 58.01.17.700.01 and 02 with respect to any conditions stated in this permit upon review and approval of the DEQ.

3. Whenever a facility expansion, production increase or process modification is anticipated which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge that will exceed the conditions of this permit, or if it is determined by the DEQ that the terms or conditions of the permit must be modified in order to adequately protect the public health or environment, a request for either major or minor modifications must be submitted together with the reports as described in I. *Standard Reporting Requirements*, and plans and specifications for the proposed changes. No such facility expansion, production increase or process modification shall be made until plans have been reviewed and approved by the DEQ and a new permit or permit modification has been issued.

4. Permits shall be transferable to a new owner or operator provided that the permittee notifies the Director by requesting a minor modification of the permit before the date of transfer.

5. Any person violating any provision of the Waste Water Land Application Permit Regulations, or any permit or order issued thereunder shall be liable for a civil penalty not to exceed ten thousand dollars ($10,000) or one thousand dollars ($1,000) for each day of a continuing violation, whichever is greater. In addition, pursuant to Title 39, Chapter 1, Idaho Code, any willful or negligent violation may constitute a misdemeanor.

6. The Director may revoke a permit if the permittee violates any permit condition or the Wastewater Land Application Permit Regulations.

7. Except in cases of emergency, the Director shall issue a written notice of intent to revoke to the permittee prior to final revocation. Revocation shall become final within thirty-five (35) days of receipt of the notice by the permittee, unless within that time the permittee request an administrative hearing in writing to the Board of the Department of Environmental Quality pursuant to the Rules of Administrative Procedures contained in IDAPA 58.01.23.

8. If, pursuant to Idaho Code § 67-5247, the Director finds the public health, safety or welfare requires emergency action, the Director shall incorporate findings in support of such action in a written notice of emergency revocation issued to the permittee. Emergency revocation shall be effective upon receipt by the permittee. Thereafter, if requested by the permittee in writing, a revocation hearing before the Board of the Department of Environmental Quality shall be provided. Such hearings shall be conducted in accordance with the Rules of Administrative Procedures contained in IDAPA 58.01.23..

9. The provisions of this permit are severable and if a provision or its application is declared invalid or unenforceable for any reason, that declaration will not affect the validity or enforceability of the remaining provisions.

10. The permittee shall notify the DEQ at least six (6) months prior to permanently removing any permitted land application facility from service, including any treatment, storage, or other facilities or equipment associated with the land application site. Prior to commencing closure activities, the permittee shall: a) participate in a pre-site closure meeting with the DEQ; b) develop a site closure plan that identifies specific closure, site characterization, or cleanup tasks with scheduled task completion dates in accordance with agreements made at the pre-site closure meeting; and c) submit the completed site closure plan to the DEQ for review and approval within forty-five (45) days of the pre-site closure meeting. The permittee must complete the DEQ approved site closure plan.

Appendix 1
Environmental Monitoring Serial Numbers

HYDRAULIC MANAGEMENT UNITS

Serial Number	Description	Acres
MU-019901	The WLAP Site has one HMU, and it encompasses the entire 5.0 acre land application site. Vegetated field bounded by Vintage St. on the East, Moon Valley Rd. on the North, Rivervine subdivision property boundary on the West, and the Pioneer Canal on the South	5.0

WASTEWATER SAMPLING POINTS

Serial Number	Description
WW-019901	Raw wastewater at the influent point to the SBR Equalization Tank.
WW-019902	Wastewater after the Sand Filter but prior to the chlorine tank.
WW-019903	Wastewater after chlorine tank but prior to the land application site or pond.

SURFACE WATER SAMPLING POINTS

Serial Number	Description
SW-019901	From the south shore of Pond 1, adjacent to the pipe that goes under the Pioneer Canal and connects Pond 1 to Pond 2.
SW-019902	During the Irrigation Season, sample the irrigation water supplied to Pond No. 1. Sample the irrigation water prior to the entry point into the pond. Sample monthly to establish the constituents entering the pond from uncontrollable, off-site sources.

GROUND WATER MONITORING

Serial Number	Description	Location
GW-019901	Dedicated Monitoring Well	Up-gradient, located in northeastern quadrant of the sub.
GW-019902	Dedicated Monitoring Well	Down-gradient; NW corner of sub., at the boundary of the wastewater application site, due west of Pond #1.
GW-019903	Dedicated Monitoring Well	Down-gradient; West-Central border, south of Pioneer Canal, along the sub.'s western border.

Appendix 2
Site Maps

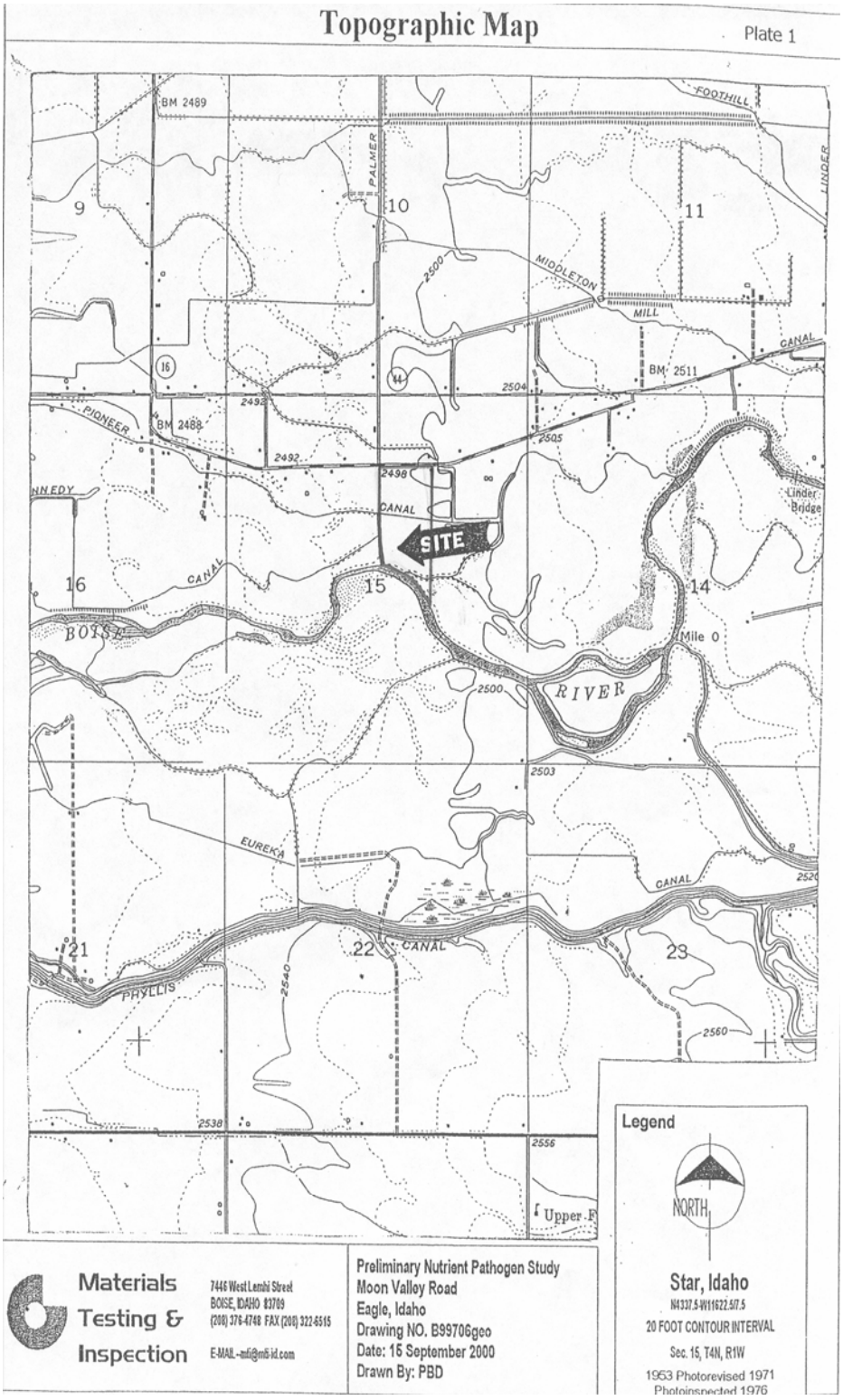

Figure 1. Site Vicinity Map, Rivervine Subdivision, Ada County

Appendix 2
Site Maps

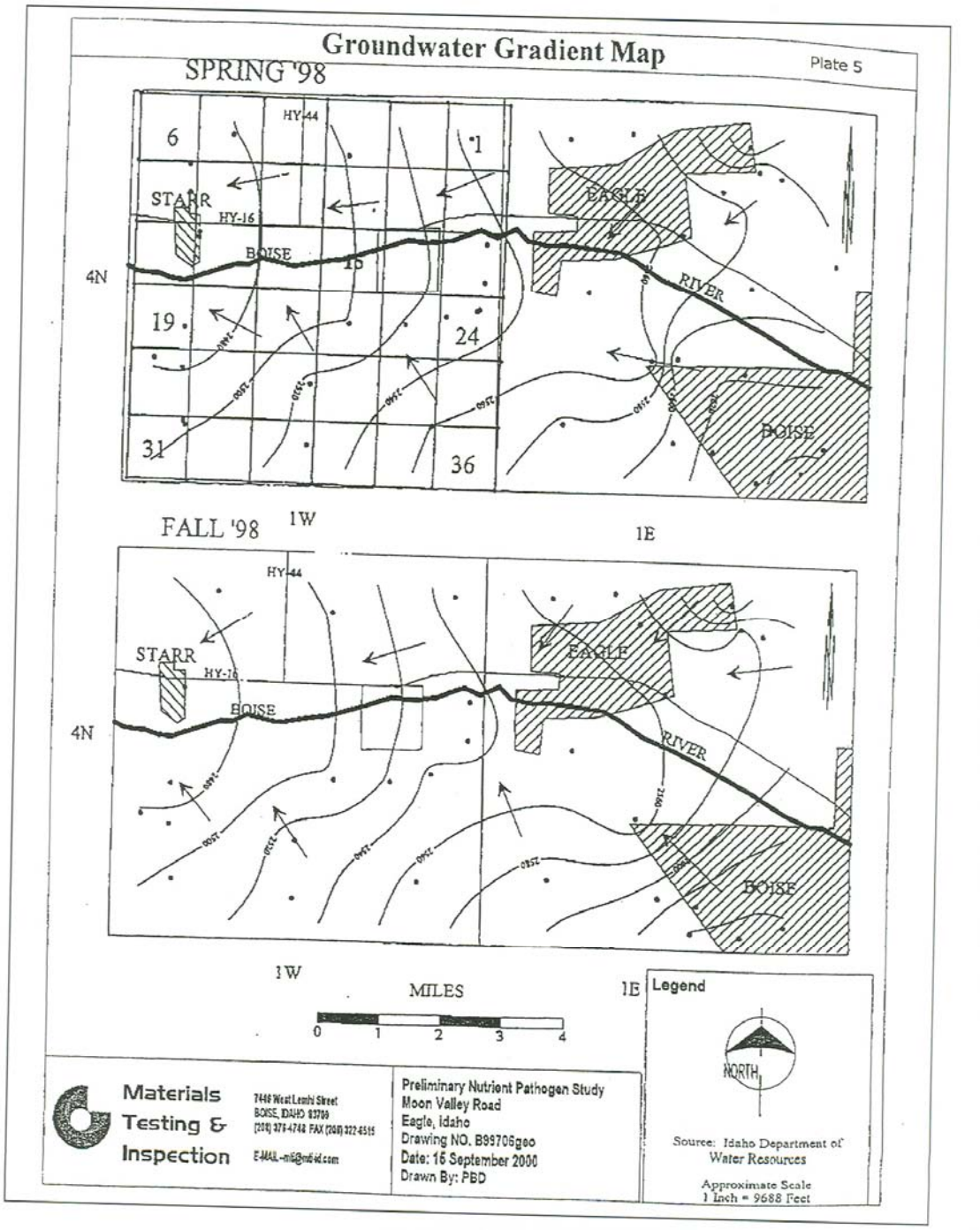

Figure 2. Groundwater Gradient Map

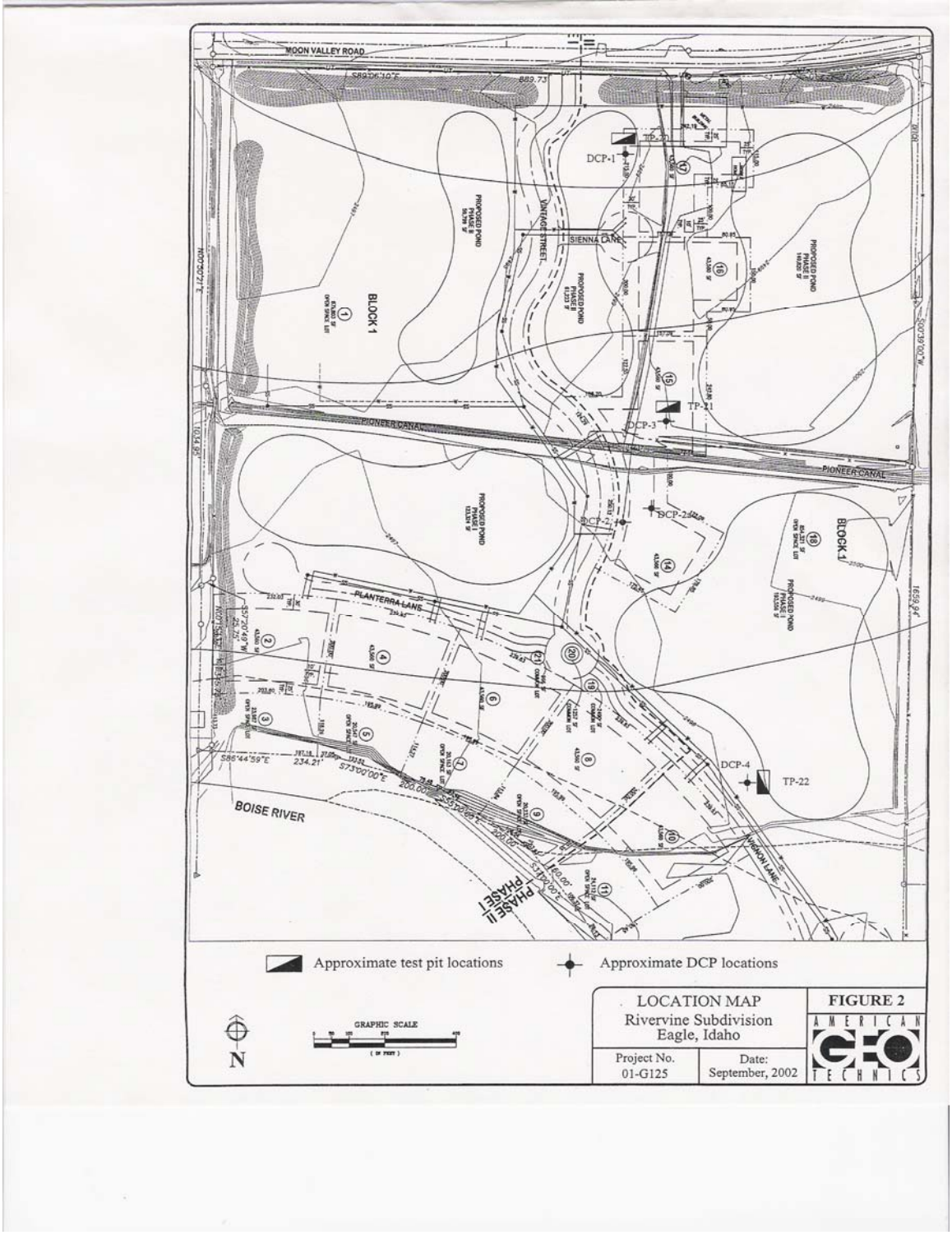

Figure 3. Site Detail Map.

Appendix 2
Site Maps

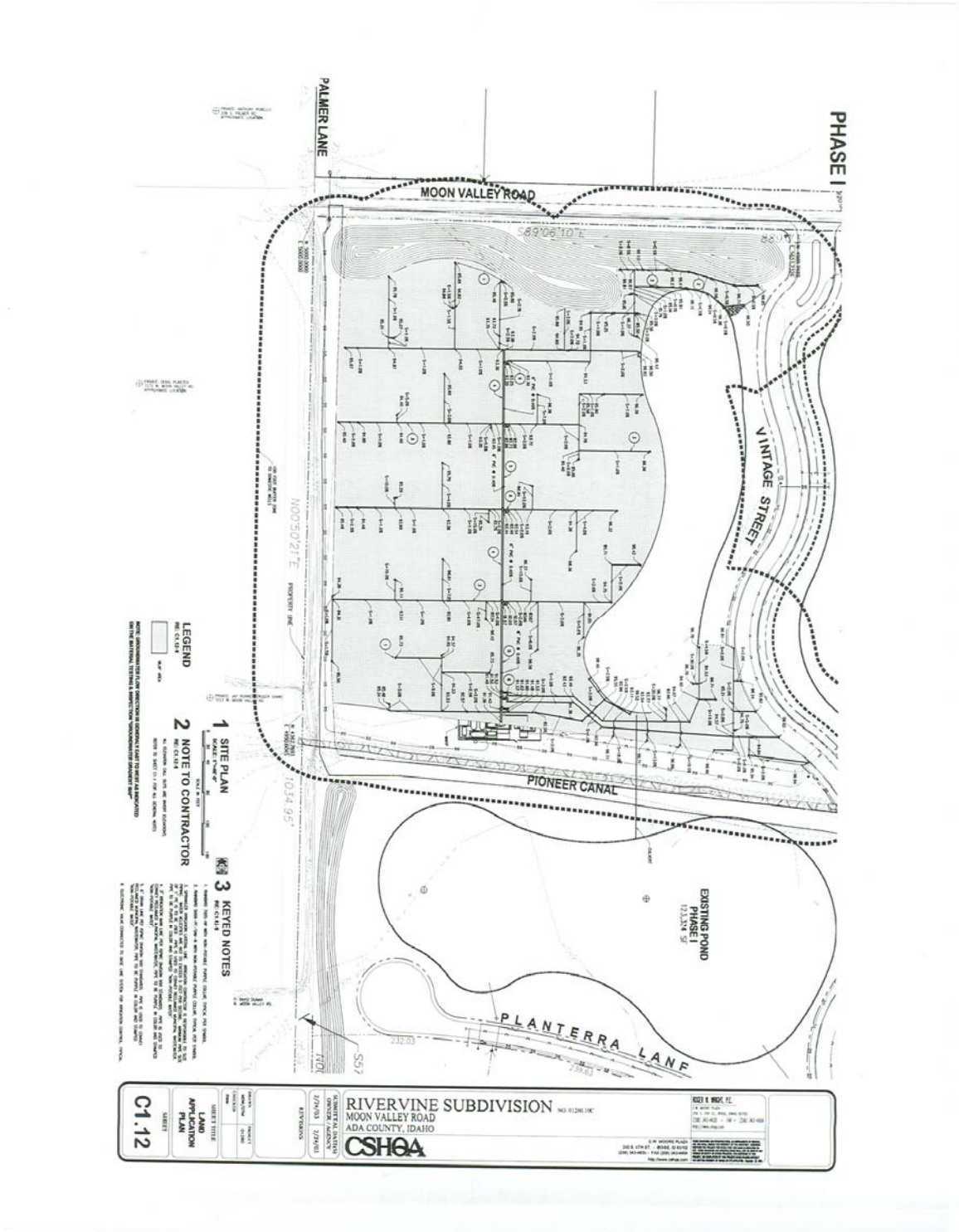

Figure 4. WLAP Hydraulic Management Unit Boundary